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jc813 U.S. PTO

09/610216

07/05/00

Express Mail Label No. EH817184945US

Docket 1624.001A

UTILITY PATENT APPLICATION TRANSMITTAL

TO THE ASSISTANT COMMISSIONER FOR PATENTS
Box Patent Application
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and
37 C.F.R. 1.53(b) is a new utility patent application for an
invention entitled:

FOR POINTS OF SALE: MATCH-CODE-RESPONSIVE, SELECTIVE,
WHOLE-TRANSACTIONS-DATA CAPTURE METHOD, SYSTEMS AND APPARATUS

and invented by:

ROLAND D. TAI

Which is a Continuation of prior Application No. 09/026,289.

Enclosed are:

1. Filing fee as calculated and transmitted as described below.
2. Specification having 32 pages and including the following:
 - a. Descriptive Title of the Invention.
 - b. Background (of the Invention).
 - c. Summary of the Disclosure.

CERTIFICATE OF MAILING

I HEREBY CERTIFY that this paper or fee is being deposited on the date
shown below with the United States Postal Service to be filed utilizing
the "Express Mail Post Office to Addressee" service under 37 CFR 1.10 and
is addressed to: Box Patent Application, Assistant Commissioner for
Patents, Washington, D.C. 20231, using Express Mailing Label No.
EH817184945US on July 5, 2000.

G. Kendall Parmelee

G. Kendall Parmelee, Reg. No. 17,319

- d. Brief Description of the Drawings.
 - e. Detailed Description of Preferred Embodiments.
 - f. Claims as Classified Below.
 - g. Abstract (of the Disclosure).
3. Three Sheets of Informal Drawings.
 4. Oath or Declaration, newly executed (original) and copy from prior application No. 09/026,289, both with Power of Attorney.
 5. PRELIMINARY AMENDMENT TO ACCOMPANY CONTINUATION PATENT APPLICATION.
 6. Acknowledgment postcard.
 7. Certificate of Express Mailing, dated July 5, 2000, using Express Mail Label No. EH817184945US.
 8. Letter to Official Draftsperson with three (3) Sheets of Formal Drawings.

Fee Calculation and Transmittal

CLAIMS AS FILED			Small Entity		Small Entity	
For	No. Filed	No. Extra	Rate	Fee	Rate	Fee
Basic Fee				\$345		\$690
Total Claims	21 - 20	1	X \$ 9 =		X \$18 =	18
Indep Claims	6 - 3	3	X \$39 =		X \$78 =	234
Multiple Dependent Claims Present		0	+ \$130		+ \$260	0
			TOTAL	\$	TOTAL	\$942

A check (Check No. 1059) in the amount of \$942.00 to cover the filing fee is enclosed.

The Commissioner is hereby authorized to charge and credit
Deposit Account No. 16-0490 as described below. A duplicate
copy of this sheet is enclosed.

- a. Credit any overpayment.
- b. Charge any additional filing fees required under 37
C.F.R. 1.16 and 1.17.

July 5, 2000
Date

By: G. Kendall Parmelee
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Docket No.: 1624.001A

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G. Kendall Parmelee, Reg. No. 17,319

Consisting of:

1. Patent Application Transmittal Letter in duplicate.
2. Continuation Patent Application (Continuation of Application No. 09/026,289) with Specification, 21 Claims, 3 Sheets of Drawings, Abstract and Declaration and Power of Attorney entitled: FOR POINTS OF SALE: MATCH-CODE-RESPONDIVE, SELECTIVE, WHOLE-TRANSACTIONS-DATA CAPTURE METHOD, SYSTEMS AND APPARATUS, Inventor: Roland D. Tai.
3. Patent Application Filing Fee of \$942.00 (Check No. 1059).
4. Preliminary Amendment Accompanying Application.
5. Letter to Official Draftsperson with three Sheets of Formal Drawings.
6. Return Post Card.

Docket 1624.001A

005040-9707950

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner of Prior Application was: M. Kemper, Primary Examiner

Art Unit of Prior Application was: 2764

Continuation Application of: Roland D. Tai being filed
concurrently herewith.

Serial Number: Not Yet Known

Continuation of prior Application No.

09/026,289

For: FOR POINTS OF SALE: MATCH-CODE-RESPONSIVE,
SELECTIVE, WHOLE-TRANSACTIONS-DATA CAPTURE
METHOD, SYSTEMS AND APPARATUS

PRELIMINARY AMENDMENT TO ACCOMPANY
CONTINUATION PATENT APPLICATION

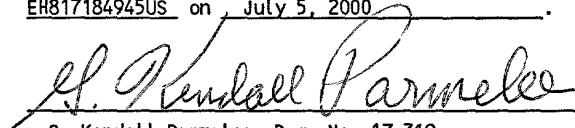
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Washington, D.C. 20231

SIR:-

Please amend the accompanying Continuation Patent
Application, as follows:

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EH817184945US on July 5, 2000.


G. Kendall Parmelee, Reg. No. 17,319

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IN THE DRAWINGS:

Enclosed with this Preliminary Amendment are three Sheets of formal drawings containing FIGS. 1, 2 and 3. It is requested, subject to Examiner's approval, that these three Sheets of formal Drawings be substituted for the existing three Sheets of informal Drawings. A Letter to the Official Draftsperson accompanies these three Sheets of formal Drawings.

IN THE SPECIFICATION:

Page 7, line 3, please correct the spelling from "retain" to -- retail -- .

Page 9, line 14, immediately after "Household and/or" please delete "to".

Page 12, last line, please correct "prospect" to -- prospective -- .

Page 21, line 13, amend "its" to -- their -- , to be in conformance with usage as set forth on line 12 immediately above.

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Page 21, line 18, amend "its" to -- their -- .

Page 21, line 19, amend "its" to -- their -- .

Page 23, line 7, please correct "20'" to -- 20 -- , in conformance with FIG. 1.

Page 26, four lines from the bottom of this page, please correct "out put" to -- output".

Page 28, line 4, please correct "80A" to -- 40A -- to be in conformance with FIG. 2 and also to be in conformance with the reference number "40A" as set forth in this same sentence on line 7.

Page 29, line 3, after "analysis computer facility" insert -- 120 -- to be in conformance with "120" set forth in the last line on page 20 and to be in conformance with FIG. 2 and also immediately to focus a reader's attention to the intended analysis computer facility in FIG. 2.

Page 29, line 15, after "FIG. 1" and before "80A" please correct "of" to -- or -- .

Page 30, line 7, after "Each" insert -- such -- to be in conformance with the legend in the block 95 in FIG. 3.

Page 30, line 10, please correct "Bout" to -- out -- .

Page 30, line 13, after "80A" and before "which", please amend "of" to a comma -- , -- .

Page 30, last line, change the final period (.) to a comma -- , -- .

Page 31, first line, before "in" insert -- included -- .

IN THE CLAIMS:

Please amend the Claims as follows:

1. (Amended) [In] For use in relation to operation of a retail establishment having a point-of-sale (POS) system [controlled by] including a data storage computer facility and comprising a plurality of check-out terminal stations where customers [present] purchase products during their respective transactions at the check-out terminal stations, wherein data signals relating to the respective transactions are transmitted back-and-forth between respective check-out terminal stations and the data storage computer facility, [usually having associated Product Codes; wherein the Product Codes and data regarding quantities of purchased items are suitably delivered to the data storage computer facility; and data regarding other

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Amended Claim 1 - continued

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factors that occur during a point-of-sale transaction such as multiple unit pricing, bottle returns, rainchecks, "cents-off" coupons, etc. are suitably delivered to the data storage computer facility and wherein the data storage computer facility accumulates Product Code and purchase and quantity data and other relevant data for an entire purchase transaction and suitably assembles all such data for enabling presentation of a customer's bill] and wherein [at] data signals occur which identify the start and the end of [the transaction the customer tenders payment, and the transaction is completed by suitable acknowledgment to a customer that the customer's bill is paid;] respective completed transactions:

apparatus for developing data from [transmissions of] data signals transmitted between the [POS] respective check-out terminal stations and the data storage computer facility to enable [the store] a management to rapidly and cost efficiently obtain critical marketing information for carrying out improved targeted marketing and/or sales operations to increase profitability, said apparatus comprising:

[sensor equipment to machine-read and electronically input to the data storage computer facility a data signal corresponding to a Match Code associated with a Reward Offer provided to selected prospective customers, identified as Primary Prospect Households (PPH);

Amended Claim 1 - continued

the Reward Offer presenting at least one offer of an identified product with a special incentive for purchase;

the Match Code associated with the Reward Offer identifying the specific Primary Prospect Household to which the Reward Offer was extended;

a monitoring computer facility for monitoring signals transmitted between the POS and said data storage computer facility to detect any Match Code;

said monitoring computer facility being responsive to detection of any data signal corresponding to a Match Code to identify a series of signals representing the total transaction data for all of the purchases made during a completed transaction by the customer bringing the Reward Offer with which the Match Code is associated; and

means for analyzing said total transaction data to determine relevant information to enable improved marketing and/or sales operations to be carried out subsequently.]

a multiplicity of Reward Offers presenting offers for sale of identified products with incentives for purchase of the identified products;

said Reward Offers having associated therewith machine-sensible MATCH Codes;

Amended Claim 1 - continued

said Reward Offers being suitable for members of
respective primary prospect households to bring to check-out
terminal stations during their respective transactions at
check-out terminal stations;

said machine-sensible MATCH Codes during machine
sensing at a check-out terminal station providing data signals
identifying respective primary prospect households to whom
respective Reward Offers were provided;

said machine-sensible MATCH Codes during machine
sensing at a check-out terminal station providing data signals
marking respective completed transactions wherein Reward Offers
were presented;

said machine-sensible MATCH Codes during machine
sensing at a check-out terminal station providing data signals
enabling auditing of reward reimbursements for financial control
and for fraud control;

said machine-sensible MATCH Codes during machine
sensing at a check-out terminal station providing data signals
enabling tracking of actual purchase behaviors of respective
primary prospective households;

said machine-sensible MATCH Codes during machine
sensing at a check-out terminal station providing data signals
enabling compiling purchasing loyalty rewards for respective
primary prospect households;

Amended Claim 1 - continued

said apparatus monitoring data signals being transmitted back and forth between the check-out terminal station and the computer facility;

said apparatus storing data corresponding to data signals being monitored;

said apparatus storing said data in relation to completed transactions;

said apparatus identifying groups of stored data corresponding to completed transactions;

said apparatus detecting whether a group of stored data corresponding to a completed transaction contains data corresponding to data signals provided during machine sensing of a MATCH Code;

said apparatus selectively accessibly storing respective groups of data corresponding to respective completed transactions which contain data corresponding to data signals provided during machine sensing of MATCH Codes;

said apparatus removing from storage the groups of data corresponding to completed transactions which are devoid of data corresponding to data signals provided during machine sensing of MATCH Codes; and

said accessibly stored respective groups of data corresponding to the respective completed transactions which contain data corresponding to data signals provided during

Amended Claim 1 - continued

machine sensing of MATCH Codes being available for analysis of each group for determining those primary prospect households whose patterns of purchases are more profitable and whose patronage and loyalty are desirable to be encouraged and rewarded,

thereby enabling management to provide to said primary prospect households whose patterns of purchases are the most profitable subsequent Reward Offers presenting offers for sale of identified products with enhanced incentives for purchase thereof.

For convenience of reading by the Examiner, the text of Amended Claim 1 is set forth below in the form of a "clean copy" with bracketed phraseology removed from said clean copy and with underlined phraseology being incorporated into said clean copy without underlining:

"Clean copy" of amended Claim 1:

1. (Amended) For use in relation to operation of a retail establishment having a point-of-sale (POS) system including a data storage computer facility and comprising a plurality of check-out terminal stations where customers

"Clean copy" of amended Claim 1 - continued

purchase products during their respective transactions at the check-out terminal stations, wherein data signals relating to the respective transactions are transmitted back-and-forth between respective check-out terminal stations and the data storage computer facility, and wherein data signals occur which identify the start and the end of respective completed transactions:

apparatus for developing data from data signals transmitted between the respective check-out terminal stations and the data storage computer facility to enable a management to rapidly and cost efficiently obtain critical marketing information for carrying out improved targeted marketing and/or sales operations to increase profitability, said apparatus comprising:

a multiplicity of Reward Offers presenting offers for sale of identified products with incentives for purchase of the identified products;

said Reward Offers having associated therewith machine-sensible MATCH Codes;

said Reward Offers being suitable for members of respective primary prospect households to bring to check-out terminal stations during their respective transactions at check-out terminal stations;

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[illegible]

said machine-sensible MATCH Codes during machine sensing at a check-out terminal station providing data signals marking respective completed transactions wherein Reward Offers were presented;

said machine-sensible MATCH Codes during machine sensing at a check-out terminal station providing data signals

said machine-sensible MATCH Codes during machine sensing at a check-out terminal station providing data signals enabling compiling purchasing loyalty rewards for respective primary prospect households;

"Clean copy" of amended Claim 1 - continued

said apparatus monitoring data signals being transmitted back and forth between the check-out terminal station and the computer facility;

said apparatus storing data corresponding to data signals being monitored;

said apparatus storing said data in relation to completed transactions;

said apparatus identifying groups of stored data corresponding to completed transactions;

said apparatus detecting whether a group of stored data corresponding to a completed transaction contains data corresponding to data signals provided during machine sensing of a MATCH Code;

said apparatus selectively accessibly storing respective groups of data corresponding to respective completed transactions which contain data corresponding to data signals provided during machine sensing of MATCH Codes;

said apparatus removing from storage the groups of data corresponding to completed transactions which are devoid of data corresponding to data signals provided during machine sensing of MATCH Codes; and

said accessibly stored respective groups of data corresponding to the respective completed transactions which

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"Clean copy" of amended Claim 1 - continued

contain data corresponding to data signals provided during machine sensing of MATCH Codes being available for analysis of each group for determining those primary prospect households whose patterns of purchases are more profitable and whose patronage and loyalty are desirable to be encouraged and rewarded,

thereby enabling management to provide to said primary prospect households whose patterns of purchases are the most profitable subsequent Reward Offers presenting offers for sale of identified products with enhanced incentives for purchase thereof.

2. (Amended) Apparatus as claimed in Claim 1, wherein:

said [total transaction data includes purchase of the identified product associated with the Reward Offer.] accessibly stored respective groups of data corresponding to respective completed transactions which contain data corresponding to data signals provided during machine sensing of MATCH Codes include data regarding purchase of a product identified by Reward Offers whose MATCH Codes were machine sensed.

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3. (Amended) Apparatus as claimed in Claim 1,
wherein:

said Reward Offer includes graphic presentations of a plurality of separate offers respecting different products with different incentives for their respective purchases, [affording the customer a selection;

said in-store processor including means to develop in said total transaction data a reward for each of the customer purchases corresponding to said separate offers.]

thereby offering selections to primary prospect households to whom the Reward Offers are provided; and

said accessibly stored respective groups of data corresponding to the respective completed transactions which contain data corresponding to data signals provided during machine sensing of MATCH Codes are available for determining respective selections made by particular primary prospect households.

4. (Amended) Apparatus as claimed in Claim 1,
wherein:

said apparatus includes: [selective data sentry means arranged to receive the transaction data from the output of said in-store processor; and

means forming part of said selective data sentry means and responsive to the detection of a Match Code for temporarily

Amended Claim 4 - continued

storing all of the transaction data for any complete transaction which the detected Match Code is included.]

a multiplicity of subsequent Reward Offers provided to said primary prospect households analytically determined to be those whose patterns of purchases are more profitable; and

said subsequent Reward Offers present offers for sale of identified products with enhanced incentives for purchase thereof.

5. (Amended) Apparatus as claimed in Claim [4] 1, wherein:

[said selective data sentry means comprises means to direct all of said temporarily stored transaction data to a dedicated data base having analysis means arranged to analyze the transaction data to develop significant marketing information relating to the customer presenting the corresponding Reward Offer.]

said subsequent Reward Offers present offer for sale of a plurality of products analytically determined to be among products which were included in said patterns of purchases; and

said offers for sale of said plurality of products include enhanced incentives for purchase thereof,

Amended Claim 5 - continued

thereby encouraging patronage and loyalty of said of primary prospect households by offering to sell to them a plurality of products which previously were included in their patterns of purchase and which are now being offered with enhanced incentives for purchase thereof.

6. (Amended) Apparatus as claimed in Claim 1, including: [means for identifying the start and end of an entire transaction;

said selective data sentry means including means responsive to said identified start and end of the entire transaction and serving to temporarily store the complete transaction data for a transaction where a Match Code has been detected.]

temporary data storage;

wherein said temporary data storage temporarily stores the data corresponding to the data signals being monitored;

said temporary data storage is responsive to data signals identifying the start and the end of respective completed transactions for identifying respective groups of temporarily stored data corresponding to respective completed transactions;

said temporary data storage temporarily stores groups of data in relation to respective completed transactions;

Amended Claim 6 - continued

said temporary data storage detects whether respective groups of temporarily stored data contain data corresponding to data signals provided during machine sensing of MATCH Codes;

said temporary data storage removes from storage the respective groups of temporarily stored data corresponding to completed transactions devoid of data corresponding to data signals provided during machine sensing of MATCH Codes;

said temporary data storage transfers to selective accessible storage the respective groups of temporarily stored data corresponding to respective completed transactions containing data corresponding to data signals provided during machine sensing of MATCH Codes; and

said selective accessible storage has an output for communicating with a data analysis computer facility for individual analysis of the respective groups of data in said selective accessible storage.

7. (Amended) Apparatus as claimed in Claim 6, wherein: [said selective data sentry means includes means to make a copy of said complete transaction data for a transaction where a Match Code has been detected;

said in-store processor including output means operable to direct said complete transaction data to a centralized host computer for extensive detailed analysis.]

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Amended Claim 7 - continued

said temporary data storage has suitable data storage capacity for temporarily storing a group of data containing therein more data than all of the data corresponding to all of the data signals which would be monitored during a longest predetermined completed transaction.

8. (Amended) Apparatus as claimed in Claim [7] 1, wherein; [said selective data sentry means includes means operable to receive said complete transaction data from said output means of said in-store processor.]

said data storage computer facility accessibly stores respective groups of data corresponding to completed transactions which contain data corresponding to data signals provided during machine sensing of MATCH Codes for being available for analysis of each group; and

said data storage computer facility has a communication pathway with a data analysis computer facility for individual analysis of each respective group of data corresponding to a completed transaction which contains data corresponding to data signals provided during machine sensing of a MATCH Code.

9. (Amended) Apparatus as claimed in Claim 1, wherein; [said in-store processor includes decoding means responsive to the coded data input thereto;

Amended Claim 9 - continued

said decoding means serving to determine whether the coded data represents a product code or a Match Code; and

means responsive to the output of said decoding means and operative to direct a signal to said selective data sentry means to indicate detection of a Match Code for the transaction then being processed, thereby to activate said selective data sentry means to identify the transaction data for the entire transaction for analysis.]

said accessibly stored respective groups of data corresponding to the respective completed transactions which contain data provided during machine sensing of MATCH Codes are available for analytically:

(i) determining the identity of each primary prospect household who brought a Reward Offer whose MATCH Code was machine sensed at a check-out terminal station;

(ii) determining the charged amount paid in a completed transaction by each respective primary prospect household who brought a Reward Offer whose MATCH Code was machine sensed at a check-out terminal station;

(iii) determining identities of items purchased by each respective primary prospect household who brought a Reward Offer whose MATCH Code was machine sensed at a check-out terminal station;

Amended Claim 9 - continued

(iv) identifying whether each said charged amount exceeds a predetermined amount;

(v) identifying each said item purchased whose sale provides a profit exceeding a predetermined percentage; and

(vi) determining whether a specifically identified primary prospect household is involved in a completed transaction wherein the pattern of purchases is analytically determined to be among more profitable patterns of purchases in completed transactions whose data is being analyzed.

Please cancel Claim 10 without prejudice and please insert the following Claim 21:

21. A method for increasing profitability and customer loyalty for use by a retail establishment having a point-of-sale system including a data storage computer facility and a plurality of check-out terminal stations where customers purchase products during their respective transactions at the check-out terminal stations, wherein data signals relating to the respective transactions are transmitted back-and-forth between respective check-out terminal stations and the data storage computer facility, and wherein data signals occur which identify starting and ending of respective completed transactions:

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Claim 21 - continued

A) preparing Reward Offers presenting offers for sale of identified products with incentives for purchase of the identified products;

B) from among a large group of households geographically located such that members of those households might at some time be customers of the retail establishment selecting a smaller group of households considered initially to be primary prospect households;

C) preparing said Reward Offers to be suitable for members of primary prospect households to bring to check-out terminal stations during their respective transactions at check-out terminal stations;

D) associating with the Reward Offers machine-sensible MATCH Codes whose machine-sensing at a check-out terminal station provides data signals for

- (i) identifying the primary prospect household to whom was provided a Reward Offer brought to a check-out terminal station,
- (ii) marking a completed purchase transaction involving a primary prospect household to whom was provided the Reward Offer brought to a check-out terminal station,

Claim 21 - continued

- (iii) providing a machine-sensible auditing trail for auditing reward reimbursements for financial control and for fraud control,
- (iv) enabling tracking of actual purchase behaviors of respective primary prospect household,
- (v) providing data for compiling purchasing loyalty rewards for respective primary prospect households, and

E) providing respective Reward Offers to respective primary prospect households whose identity will be identified by data signals provided by machine-sensing at check-out terminal stations of respective MATCH Codes associated with the respective Reward Offers;

F) monitoring data signals being transmitted back and forth between check-out terminal stations and the computer facility;

G) temporarily storing data corresponding to data signals being monitored;

H) identifying completed transactions;

I) grouping temporarily stored data in respective groups corresponding to respective identified completed transactions;

Claim 21 - continued

J) detecting whether a respective group of temporarily stored data corresponds to a completed transaction during which occurred to data signals provided by machine sensing of a MATCH Code;

K) transferring from temporary storage to selectively accessible storage each respective group of stored data corresponding to a completed transaction during which occurred data signals provided by machine sensing of a MATCH Code; and

L) removing from temporary storage each respective group of temporarily stored data corresponding to a completed transaction devoid of occurrence of data signals provided by machine sensing of a MATCH Code.

Please amend Claims 11 through 20, as follows:

11. (Amended) The method of Claim [10] 21, [wherein said check-out transaction includes purchase of said product identified by the submitted Reward Offer.] including the steps of:

arranging said selectively accessible storage for analytical computer processing of each respective group of stored data;

Amended Claim 11 - continued

by analytical computer processing determining whether each group of accessibly stored data includes data corresponding to data signals arising from giving a reward reimbursement for purchase of a product and also whether each group of accessible stored data includes data corresponding to data signals relating to purchase of the product for which said reward reimbursement was given,

thereby enabling computer processing audit of whether said reward reimbursement was valid or fraudulent.

12. (Amended) The method of Claim [10] 21, [wherein said Reward Offer is a mailer carrying graphic information; and including the step of:

imprinting said Match Code on said Reward Offer in a manner suitable for machine reading.] including the steps of:

arranging said selectively accessible storage for analytical computer processing of each respective group of stored data; and

thereby determining from analytical processing of each respective group of stored data the identities of primary prospect households whose patterns of purchases are above a predetermined percentage of profitability.

13. (Amended) The method of Claim 12, including the steps of:

[machine-reading said Reward Offer to produce electrical signals representing said Match Code; and

directing said electrical signals to the input of said in-store processor.]

providing a multiplicity of subsequent Reward Offers to the primary prospect households whose patterns of purchases have been determined to be above said predetermined percentage of profitability; and

in the subsequent Reward Offers presenting offers for sale of identified products with enhanced incentives for purchase thereof.

14. (Amended) The method of Claim [10] 13, including the steps of:

[identifying the start and end of the series of signals representing the total transaction data for a transaction where a Match Code is detected; and

directing said total transaction data to a performance analysis computer for processing to produce an assessment of predetermined significant factors of the total transaction.]

in said subsequent Reward Offers presenting offers for sale of a plurality of products analytically determined to be

Amended Claim 14 - continued

among products which were included in said patterns of purchases
determined to be above said predetermined percentage of
profitability; and

presenting enhanced incentives for purchase thereof.

15. (Amended) A method for enhancing operation of a
retail[ing] enterprise comprising the steps of:

selecting prospect customers' households geographically
located in areas whence customers might come to the retail
enterprise;

providing to households of selected prospect customers,
[identified as Primary Prospect Households (PPHs),] respective
Reward Offers each having an associated machine-sensible MATCH
Code whose machine sensing will provide data signals identifying
the specific [Household and/or to its address] household to
which the Reward Offer was provided[,]; [said Reward Offer]

presenting in the Reward Offer at least one offer for
sale of a product identified in the Reward Offer with [a
special] an incentive for its purchase;

fashioning each Reward Offer for a prospect customer to
submit the Reward Offer with its MATCH Code at a check-out
terminal station during a retail transaction at the retail
establishment;

Amended Claim 15 - continued

whereby machine sensing of each [inputting the] MATCH Code at [the] a check-out terminal station [developing a corresponding code signal as an input signal for a data storage computer facility;] provides data signals identifying the specific household to which each Reward Offer was provided;

monitoring data signals [input to the] being communicated back and forth between the check-out terminal station and a data storage computer facility relating to purchasing activities occurring at the check-out terminal station for detecting any [code signal] data signals [corresponding to] provided by machine sensing of a MATCH Code;

identifying, in response to detection of [a code signal corresponding to a] data signals provided by machine sensing of each MATCH Code, [a] each group of data signals [representing] that is a group of all data signals relating to [each] a completed transaction [at the check-out terminal station wherein a code signal was developed corresponding to a MATCH Code];
[and]

selectively accessibly storing each such group of data [relating] corresponding to each such group of signals[.]; and

providing for analytical processing of each such group of accessibly stored data.

16. (Amended) The method as claimed in Claim 15 including:

analyzing [the stored data relating to] each such group of [signals] accessibly stored data to determine information relevant for marketing and sales procedures to be carried out subsequently with regard to the prospect customers.

17. (Amended) Apparatus for use in relation to Point of Sale transactions occurring at a check-out terminal station, said apparatus comprising:

a Reward Offer adapted to be provided to a specific prospect customer address and having a MATCH Code associated therewith;

said MATCH Code [including] being machine-sensible for providing data signals identifying the specific prospect customer address to which the Reward Offer is provided;

said Reward Offer presenting at least one offer for sale of a product identified in the Reward Offer with [a special] an incentive for its purchase;

[said MATCH Code being machine-sensible;]

said Reward Offer being adapted for the prospect customer to bring the Reward Offer to a check-out terminal station;

a computer facility [for use in a retail establishment for] monitoring all data signals arising from transactions

Amended Claim 17 - continued

occurring at a check-out terminal station including data signals
provided by machine sensing a MATCH Code;

said data signals being adapted for input to a data
storage facility;

said computer facility being responsive to any data
signal [corresponding to] provided by machine sensing a MATCH
Code for identifying a group of data signals representing [the]
a total of all transaction data relating to a completed
transaction [involving] including a data [corresponding to]
signal provided by machine sensing a MATCH Code;

said computer facility selecting from said monitored
data signals each group of data signals representing [the] a
total of all [transaction] data [relating to] signals arising
from a completed transaction [involving] including a data
[corresponding to] signal provided by machine sensing a MATCH
Code; and

selectively accessible storage for storing each such
group of data signals in a form suitable for analyzing [the]
each such group to determine relevant information to enable
improved selective marketing activities and/or enhanced sales
procedures [regarding] with regard to specific prospect
customers.

18. (Amended) A method for use in retail establishments involving points-of-sale [(POS)] transactions wherein customers in their respective transactions present selected products at check-out terminal stations and wherein [such products have Product Codes for enabling] a stream of data signals relating to respective transactions are communicated between the check-out terminal stations and a data storage computer facility [to determine identities, current prices of products being sold and assembles all data relating to a customer's transaction] for enabling development [at the POS] of [a] total charged amounts for [the] respective completed transactions, said method comprising the steps of:

providing Reward Offers to preselected specific customers;

each Reward Offer having an associated machine-sensible MATCH Code whose machine sensing at a check-out terminal station provides data signals identifying [a] respective specific customers to whom respective Reward Offers were provided and each Reward Offer including an offer for sale of at least one product identified in the Reward Offer with an inducement for purchase of said product;

sensing [a] the stream of data signals being [transmitted] communicated between [a POS] the check-out terminal stations and the data storage computer facility;

Amended Claim 18 - continued

temporarily storing in accessible temporary storage
data corresponding to successive portions of the stream of data
signals; [in accessible temporary storage;]

sensing each occurrence of a data signal [corresponding
to] provided by machine sensing of a MATCH Code;

removing from said accessible temporary storage all
data [relating to] corresponding to all data signals occurring
during each completed transaction [wherein there is no
occurrence] devoid of a data signal [corresponding to] signal
provided by machine sensing of a MATCH Code;

selecting from said accessible temporary storage each
group of data [relating to] corresponding to all data signals
occurring during each completed transaction wherein there is an
occurrence of a data [corresponding to] signal provided by
machine sensing of a MATCH Code; and

analyzing each such group of selected data for
determining predetermined aspects regarding each completed
transaction as shown by the data in each such group [relating]
in relation to the customer [whose identity is] identified by a
data signal included in each such group provided by machine
sensing of a MATCH Code. [data included in each such group.]

19. (Amended) The method as claimed in Claim 18 including steps of:

[(a) for each respective group of selected data determining the identity of each customer to whom a Reward Offer was provided from data corresponding to a respective MATCH Code;]

[(b)] (a) for each respective group of selected data determining the charged amount; and

[(c)] (b) for each respective group of selected data determining identities of items purchased by [said specific] the identified customer. [from data corresponding to Product Codes.]

20. (Amended) The method as claimed in Claim 18 including steps of:

[(d)] (c) for each respective group of selected data identifying a charged amount occurring at completion of a transaction which exceeds a predetermined [dollar] amount of money;

[(e)] (d) for each respective group of selected data identifying each item whose sale provides a profit exceeding a predetermined amount of money; and

[(f)] (e) for each respective group of selected data identifying each item whose sale provides a profit exceeding a predetermined percentage.

Please insert the following Claim 22:

22. Apparatus for enhancing marketing utility of groups of data developed in relation to transactions occurring at a check-out terminal station wherein each group of data includes data indicating completion of a transaction, said apparatus comprising:

Reward Offers prepared under direction of management having responsibility for the check-out terminal station and being suitable for distribution to preselected customers;

said Reward Offers having associated therewith respective machine-sensible indicia identifying respective preselected customers to whom were provided respective Reward Offers; and

data selection apparatus for selecting each respective group of data including data indicating completion of a transaction and also including data arising from sensing of respective machine-sensible indicia identifying one of said respective preselected customers;

said data selection apparatus avoiding selection of each group of data including data indicating completion of a transaction and lacking customer-identifying data arising from sensing of machine-sensible indicia;

said data selection apparatus storing the selected groups of data in accessible storage; and

Claim 22 - continued

said accessible storage being in communication with analytical processing equipment for analyzing each stored selected group of data.

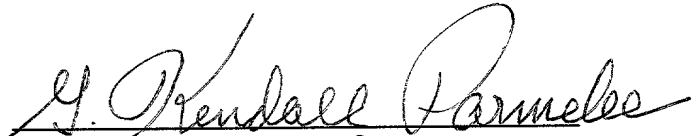
REMARKS

Favorable consideration of Claims presented is courteously solicited.

Respectfully submitted,

Dated July 5, 2000

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**FOR POINTS OF SALE: MATCH-CODE-RESPONSIVE, SELECTIVE,
WHOLE-TRANSACTIONS-DATA CAPTURE METHOD, SYSTEMS AND APPARATUS**

BACKGROUND

In transactions occurring at points of contact with customers, for example such as in mass retailing and banking, the practice for many years was to handle customers' purchase transactions by involvement of servicing personnel in almost all aspects of such transactions occurring at points of check-out contact with customers. Such points of contact with customers wherein tender is exchanged for desired goods or services herein are called points-of-sale (POS).

As demand growth plateaued and as competition intensified, retaining market leadership necessitated servicing more transactions, cutting costs, improving service and efficiency and speeding up transactions occurring at each POS to lower market pricing while increasing profit margins. To accomplish these objectives, most of each transaction now is handled by computerized processing. Since today's large retail chains face a high threshold of costs to be overcome each business day, with overall consumer purchases ("consumption") now tending to be "flat" and competitively volatile, there is

great urgency in transmitting and aggregating all data regarding sales transactions occurring at each POS as fast and accurately as possible to a central ("host") computer facility for data storage and for processing into decision-making information. In summary, there is an urgent, competitive-pressure need to know up-to-the-minute profit data. This need to know current profit facts puts pressure on managers of retail firms (particularly chains) to allow nothing to interfere with nor interrupt quick and accurate real-time transmission to their "host" computer facility of all sales data. By way of example, it is my understanding that Walmart's Bentonville, Arkansas, headquarters knows the daily total of all sales for all 2,000 stores in their chain by 7:00 A.M. the next morning.

Sales transactions data are fed into a retailer's POS computerized processing system at each check-out terminal station as cashiers scan-in (machine-read-in) and/or key-in all data regarding transactions as they are occurring, including Product Codes for items being sold. Thus, all transaction data immediately are sent to and are collected temporarily in the retailer's nearby "in-store processor" or "controller", herein called a data storage computer facility, thereby becoming an aggregation of all data regarding incoming revenue and total costs of all items sold. From Product Codes data, the data storage computer facility determines identifies of sold items,

their current sales prices and their costs. Thereby, such an in-store data storage computer facility is enabled to provide a total of revenue from sales and to provide a total of costs of items sold. This in-store data storage computer facility is regularly and consistently polled by the centralized host computer, thereby becoming an aggregation of all sales receipts of all items sold at all stores in the chain and an aggregation of all costs of items sold.

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An objective is for management of a retail establishment on a hour-by-hour basis to be able to determine if and when today's aggregation of sales data indicates that sufficient profits have accrued to exceed today's threshold of costs. This need to determine if and when aggregate sales profits are exceeding a current threshold of costs has become increasingly critical in view of a long-term trend (since 1960's) in retailing towards multi-store chains of larger and larger stores, i.e., with more and more square feet and sales volume per store. As America's and Europe's socioeconomic environments have matured, price elasticity in retailing has waned, and competition has intensified.

The retailing industry has consolidated for greater market share and operating efficiencies. Individually-owned establishments have been bought out or displaced by larger

stores which are associated with or included in chains. In America, the Walmart chain has grown to about 2,000 units with annual current aggregate sales of about \$104 Billion.

For retail establishments which are parts of a retail chain, as soon as possible after close of their day's business, each individual store's sales transactions data, which have been collected in the retailer's data storage computer facility, are transmitted to the retailer's host computer facility located at company headquarters or at a dedicated site. In that host computer facility, the individual store's sales transactions data transmitted from each particular retail establishment in the chain are aggregated with sales data transmitted from all other stores in the chain. Thus, soon after close of each business day, corporate management of the chain can determine their total sales volume, identities of all items sold and profit or loss resulting from these sales transactions which have occurred at all of the retail outlets in the chain. But there is no readily available, customer-specific, sales transactions information nor customer-specific purchasing-patterns information collected in the host computer.

While it is possible to utilize data in the host computer to analyze transactions to determine which are the most profitable, such information is academic without an ability to

predictably and accurately replicate or enhance subsequent most profitable purchases and purchasing-patterns by having the most vital information, namely: WHO ARE THE RETAILER'S MOST PROFITABLE SHOPPERS AND WHERE ARE THEY LOCATED?

Relatively recently, managements involved in transaction-based industries, particularly those managing large mass-marketing chains of outlets, have begun to recognize that various outlets located in various geographic areas: rural, suburban, urban, coastal, inland, farming, manufacturing, etc. are serving groups of customers who are not alike in the types of and prices of their purchases and whether or not their purchases at particular outlets involve a multi-year-usage item, such as a refrigerator, stove, lawn mower, clothes dryer and the like. Transaction volume levels for the nation's dominant mass retailers are enormously high. All transactions regardless of profitability are aggregated into a central host computer. Therefore, this enormous bank of data aggregated into a central host computer essentially is unavailable and useless for analytical purposes.

In an attempt to mine or extract some further benefits from the aggregated bank of data stored in their host computers and in seeking to reap such benefits on an "actionable time frame basis", two of the nation's largest mass-marketing

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retailers have invested hundreds of millions of dollars (perhaps more than a billion dollars sum total by them both) in purchasing some of the world's fastest, most powerful and most expensive computers. Even using these fastest, most powerful computers, these two huge retailers do not find out information about their sales patterns which I believe to be among the most important factors for guiding an efficient, profitable retail sales operation so as to optimize transactions occurring at each individual outlet in the chain and to enhance customer loyalty and to encourage consistent patronage by those specifically-identified customers whose patterns of transactions are more profitable than typical or average patterns of transactions.

SUMMARY OF THE DISCLOSURE

Among advantages provided by a method, systems and apparatus embodying the present invention are those resulting from the fact that they enable a real-time, selective, on-line capture of valuable data about characteristics and nature of selected individual transactions and provide the identities of specific, most profitable customers or households. They provide a far more time and cost efficient ability to extract and yield information including identification of the specific customers or households which are the retailer's most profitable shoppers, and including determinations of their usual or average

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purchasing patterns as shown by their particular transactions. They enable selective capture of valuable information about specific customer's frequencies of coming to a particular retail establishment and each customer's typical or average dollar volumes of purchases occurring during each of their POS transactions and the typical cost/quality of products involved in their individual transactions. From this captured information, a retail organization is enabled to efficiently and effectively leverage their sales data. The organization is enabled to isolate and to motivate by special treatment their most profitable core of customers. A method, systems and apparatus embodying the invention provide for determining product assortment and inventory levels required to meet and to please (or to satisfy) the sales wishes and desires of those particular customers who account for about 75% to 80% of all purchases occurring at a specific retail outlet in a chain and who account for about 75% to 80% of all purchases occurring at various respective individual retail outlets in the chain. The illustrative embodiments of the invention as described enable various aspects of each selected sales transaction to be analyzed in various ways as may be deemed most useful and helpful for each specific retail outlet and as may be deemed most useful and helpful for an overall chain operation, wherein there are local managements of numerous retail outlets scattered throughout large and diverse geographic regions.

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For example, this invention enables the sorting and analysis of 100% of transactions by automated presorting for capturing a selection of whole transactions in relation to actual customers or customer households via the use of a household-specific or customer-specific MATCH Code to track and enable automated presorting simultaneously with the ongoing current purchases by each successive customer coming to each check-out terminal station.

As a valuable result of this presorting, a retail operation is enabled to select those 20% to 30% of customers whose patterns of purchases are most profitable and whose patronage and loyalty are most needed to be encouraged and rewarded; so that each retail outlet will be operating at and will continue operations at an optimum profitability, and so that a chain of outlets as a whole will be operating at and will remain at optimum profitability, thereby to keep a whole retail chain operation successful and growing in the face of ever-increasing competition.

In accord with the invention, a method is provided for use in retail establishments involving points-of-sale (POS) transactions wherein customers in their respective transactions present selected products at check-out terminal stations and wherein such products have Product Codes for enabling a data

storage computer facility to determine identities, current prices and costs of products being sold and wherein all data regarding transactions currently occurring at the check-out terminal stations including Product Codes are input into the data storage computer facility. This method enables operating such POS transactions to develop sales information so that managements of such retail establishments can carry out focused or selective marketing activities and/or enhanced sales procedures for increasing profitability.

This method comprises the steps of:

providing to selected prospect customers, identified as Primary Prospect Households (PPHs), respective Reward Offers each having an associated MATCH Code identifying the specific Household and/or to its address to which the Reward Offer was provided, said Reward Offer presenting at least one offer for sale of a product identified in the Reward Offer with a special incentive for its purchase;

fashioning each Reward Offer for a prospect customer to submit the Reward Offer with its MATCH Code at a check-out terminal station during a retail transaction;

inputting the MATCH Code at the check-out terminal station developing a corresponding code signal as an input signal for a data storage computer facility;

the check-out terminal stations including Product Codes are input into the data storage computer facility. The method, systems and/or apparatus enable operating such POS transactions in relation to submissions of Reward Offers having MATCH Codes to develop sales information so that managements of such retail establishments can carry out focused or selective marketing activities and/or enhanced sales procedures for increasing profitability.

Apparatus as shown monitors and captures customer-specific sales information regarding Primary Prospect Households (PPHs) during transmissions to a data storage computer facility of all data signals relating to transactions occurring at a check-out terminal station involving submissions of Reward Offers having MATCH Codes for enabling managements of such retail establishments to carry out focused or selective marketing activities and/or enhanced, sales procedures for increasing profitability.

The customer-specific data-capturing apparatus comprises:

a Reward Offer adapted to be provided to a specific prospect customer address and having a MATCH Code associated therewith;

said MATCH Code including data identifying the specific prospect customer address to which the Reward Offer is provided;

said Reward Offer presenting at least one offer for sale of a product identified in the Reward Offer with a special incentive for its purchase;

said MATCH Code being machine-sensible;

a computer facility for use in a retail establishment for monitoring all data signals arising from transactions occurring at a check-out terminal station;

said data signals being adapted for input to a data storage facility;

said computer facility being responsive to any signal corresponding to a MATCH Code for identifying a group of data signals representing the total of all transaction data relating to a completed transaction involving submission at a check-out station of a Reward Offer having an associated MATCH Code;

said computer facility selecting from said monitored data signals each group of data signals representing the total of all transaction data relating to a completed transaction involving the submission of a Reward Offer having an associated MATCH Code; and

said computer selectively accessibly storing each such group of data signals in a form suitable for analyzing the group to determine relevant information to enable improved selective marketing activities and/or enhanced sales procedures regarding specific prospect customers.

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In accord with an embodiment of the invention for use in reference to sales transactions involving multitudes of customers per day coming to at least one Point of Sale (POS) wherein each customer is involved in a purchasing transaction and during each respective purchasing transaction each respective customer purchases varying amounts of various items, wherein items usually are identified by individual Product Codes, wherein each respective customer's overall transaction is completed by creating a total charged amount equal to the total charges for all items purchased in the respective transaction minus any discounts and/or premium credits applicable to items purchased during the respective overall transaction and/or applicable to the respective overall transaction, wherein a stream of electronic and/or optical data is developed at the POS resulting from said transactions and said stream of data is transmitted to a predetermined data storage computer facility located at a distance from each POS, said data corresponding to Product Codes and quantities of items purchased at the POS, discounts and/or premium credits applicable to purchased items and/or applicable to each respective transaction, and said data storage computer facility transmits back to each POS current price data and other suitable data for enabling to be developed at the POS a total charged amount for the respective completed transaction, there is provided a method comprising the steps of: providing Reward Offers to preselected specific customers, each

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Reward Offer having an associated MATCH Code identifying a specific customer and each Reward Offer including an offer for sale of at least one product identified in the Reward Offer with an inducement for purchase of said product; sensing said stream of data; temporarily storing successive portions of said stream of data in accessible temporary storage; said temporary storage having suitable data storage capacity for temporarily storing more data than all of the data developed in a longest predetermined transaction; sensing each occurrence of a signal corresponding to a MATCH Code; removing from said accessible temporary storage all data relating to each completed transaction wherein there is no occurrence of a signal corresponding to a MATCH Code; selecting from said accessible temporary storage each group of data relating to each completed transaction wherein there is an occurrence of data corresponding to a MATCH Code; and analyzing each such group of selected data for determining predetermined aspects regarding the data in each such group, said predetermined aspects comprising:

(a) for each respective group of selected data determining the identity of each customer to whom a Reward Offer was provided from data corresponding to a respective MATCH Code;

(b) for each respective group of selected data determining the charged amount; and

(c) for each respective group of selected data determining identities of items purchased by said specific customer from data corresponding to Product Codes.

In accord with further aspects of this method, predetermined analytical steps include:

(d) for each respective group of selected data identifying a charged amount occurring at completion of a transaction which exceeds a predetermined dollar amount;

(e) for each respective group of selected data identifying each item whose sale provides a profit exceeding a predetermined amount of money;

(f) for each respective group of selected data identifying each item whose sale provides a profit exceeding a predetermined percentage.

As used herein the term "machine-sensible" as applied to MATCH Codes is intended to include machine-readable codes, optically-readable codes, magnetically-readable codes, electrostatically-readable codes, electronically-readable codes and/or codes which are scannable by electromagnetic mechanisms and/or by mechanical mechanisms and/or by electrical mechanisms and/or by electronic mechanisms, and/or by optical mechanisms and the like.

At current technology levels, machine-sensible MATCH Codes associated with Reward Offers are preferably provided in the form of strips of optically-readable bar code. However, it

is to be understood that future technology may provide other media and/or other mechanisms for providing machine-sensible MATCH Codes in other forms and/or other configurations.

As used herein the term "MATCH Code" means a machine-sensible code incorporating data comprising:

- M - Marking data for identifying the Primary Prospect Household to whom the Reward Offer was provided and for Marking a transaction involving that Primary Prospect Household (PPH).
- A - Auditing data for auditing a reward reimbursement trail for financial control and for fraud control.
- T - Tracking data for enabling Tracking of actual purchase behavior of a PPH.
- C - Cueing data for compiling purchasing loyalty rewards for respective PPHs.
- H - Household data for confirming and identifying respective PPHs.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention, together with further objects, features, advantages and aspects thereof, will be more clearly understood from the following detailed description considered in conjunction with the accompanying drawings which are arranged with emphasis being placed upon clearly illustrating the principles of the invention. Like reference numerals indicate like elements, like components or similar functions throughout the different views.

The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate presently preferred methods, systems and apparatus embodying the invention and, together with the general description set forth above and the detailed description of the preferred embodiments set forth below, serve to illustrate and explain principles of the invention. In these drawings:

FIG. 1 is a functional block diagram illustrating embodiments of the invention.

FIG. 2 is a functional block diagram illustrating other embodiments of the invention.

FIG. 3 is a functional block diagram illustrating functions involved in monitoring all data occurring and/or developed in POS transactions and in selectively capturing and analyzing selected groups of data relating to completed transactions each of which involved a MATCH Code.

Detailed Description of Preferred Embodiments

Inviting attention to FIG. 1, there is shown a method, systems and apparatus generally indicated at 10 embodying the present invention and being operated in a retail establishment 12, for example such as a supermarket, department store, and the like. Such a retail establishment 12 usually has a plurality of check-out terminal stations, as is well known in the art of operating retail establishments. Two of these plural check-out terminal stations are shown at 20. These stations 20 are connected by a data communication pathway 30 with a data storage computer processing facility 40. It is noted that this data communication pathway 30 may include electronic and/or optical mechanisms and/or signal processors and/or other suitable communications handling equipment in addition to electrical and/or optical and/or microwave communication connections and/or other suitable communications transmission equipment.

The data storage computer facility 40 is located and arranged to be conveniently accessible to management of the

retail establishment 12. For example this facility 40 may be in an adjacent office or in a second floor office of the retail establishment 12.

As is shown by a functional explanation 50 and by an arrow 52 showing input of data signals, the communication pathway 30 inputs data signals from the check-out terminal stations 20 into the data storage computer facility 40. It is noted that this data storage computer facility includes suitable processing capability for practical uses in a retail establishment 12. The data signals 52 relate to all check-out transactions 60 and 70 occurring at the check-out terminal stations 20.

It is to be understood that some or all of the other check-out terminal stations in the retail establishment 12 also may be connected through this communications pathway 30 to the data storage computer facility 40.

The check-out transactions include those shown at 70 embodying aspects of the present invention, wherein each transaction involves a presentation of a Reward Offer having an associated MATCH Code, and these check-out transactions also include other check-out transactions 60 as known in the art being carried out without involving MATCH Codes.

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The other transactions 60 typically include purchases of various products, tenders of cash, or of credit or debit cards, credit adjustments, e.g. for coupons, bottle deposits, rainchecks, and the like. Also, these other transactions 60 include sensing at the check-out terminal station 20 of Product Codes associated with various items being purchased. This sensing of Product Codes produces data signals corresponding specifically to identifies of Products being purchased. These product identity data signals are input along the data communication pathway 30 along with other input data relating to the transactions 60 as shown by arrow 52, thereby being input into the data storage computer facility 40. In order to determine current prices (including any current sales discounts) applicable to respective products whose Product Codes produced the product identity data signals input into the data storage computer facility 40, this facility is arranged, e.g. programmed, to "look up", i.e., to locate in a data bank and to provide data signals representing prices applicable to current respective identified products. This computer facility 40 transmits data signals 54 along the data communication pathway 30 to the check-out station 20. These data signals 54 are suitable for enabling all debit items to be subtotalled and for credit adjustments for coupons, bottle deposit returns, rainchecks, etc. then to be subtracted from a subtotal such that customers' bills can be calculated and totalled. Each

transaction is "completed" when data is entered relating to tender of payment for the totalled bill.

In the introduction above, it was explained that Reward Offers are provided to selected prospect customers, identified as Primary Prospect Households (PPHs). Each Reward Offer has an associated MATCH Code identifying the specific Household and/or its address to which the Reward Offer was provided. The Reward Offer presents to the PPH at least one offer (and preferably presents a plurality of such offers) for sale of a product (or for sale of a plurality of products) identified in the Reward Offer. This (these) offer(s) for sale of identified product(s) include(s) special incentive(s) for its (their) purchase. Consequently, the PPH becomes motivated to bring its Reward Offer to the retail establishment which provided the Reward Offer and to present the Reward Offer to a check-out station 20 at that establishment during a check-out transaction 70.

The Reward Offer has an associated machine-sensible MATCH Code. Thus, when a PPH submits its Reward Offer at a check-out terminal station 20 during its check-out transaction 70, this MATCH Code is sensed by an appropriate sensor at the check-out terminal station 20, thereby producing a code signal corresponding specifically to this MATCH Code. This code signal is input into the data storage computer facility 40 along with

all other data signals 52 relating to this currently on-going check-out transaction 70.

Except for aspects embodying the present invention involving presentation of a Reward Offer having an associated MATCH Code, and except for any incentive and/or rewards and/or extra discounts and/or premiums and/or benefits arising in a transaction 70 which involves such MATCH Code, a transaction 70 otherwise is similar to a transaction 60, which was described above.

A computer facility 80 embodies aspects of the present invention and is shown monitoring via communication pathway 90 the input data signals 52 coming from the check-out terminal stations and the return data signals 54 coming from the data storage computer facility 40. This monitoring of data signals 52 and 54 is shown by arrows 52' and 54' aimed along the communication pathway 90 toward the computer facility 80. It is noted that this monitoring communication pathway 90 may include electronic and/or optical mechanisms and/or signal processors and/or other suitable communication handling equipment in addition to electrical and/or optical and/or microwave communication connections and/or other suitable communication transmission equipment. Also, it is to be understood that this monitoring communication pathway 90 and the computer facility 80

do not block ongoing transmissions of data signals 52 and 54 along the communication pathway 30.

The computer facility 80 as shown has suitable temporary data storage capacity for temporarily storing and thereafter erasing all data relating to all completed transactions occurring at all check-out terminal stations 20 and 20' wherein code signals corresponding to MATCH Codes are not monitored during each such completed transaction. This computer facility 80 is programmed suitably to erase from its temporary storage all data relating to all transactions for which "completed transaction" data signals are monitored and wherein a code signal corresponding to a MATCH Code is not monitored as occurring during each such completed transaction.

The computer facility 80 also is programmed to identify and to transfer from temporary storage to its internal selectively accessible data storage each group of data including all data relating to each completed transaction involving a MATCH Code. All such data relating to each completed transaction involving a MATCH Code includes all data occurring and/or developed during a completed transaction during which is monitored a code signal corresponding to a MATCH Code.

The computer facility 80 as shown has suitable selectively accessible data storage capacity for accessibly storing all such groups of data occurring within a predetermined convenient time period, such convenient time period being determined by management of the retail establishment 12, or being determined by corporate headquarters management of a chain, if the retail establishment 12 is included in a chain.

Accessible from a port 100 of the computer facility 80 is each group of data relating to all data relating to, i.e., occurring and/or developed during, each completed transaction during which is monitored a code signal corresponding to a MATCH" Code. Said groups of data are available through port 100 for analysis as is shown by arrow 110 directed to a data analysis computer facility 120 for individually analyzing each group of data including all data relating to individual completed transactions during each of which a code signal corresponding to a MATCH Code had been monitored.

This analysis facility 120 is programmed as determined by management of the establishment 12 to carry out analysis of each individual group of data for a completed transaction each of which involves MATCH Code data. Various possible analytical procedures are described later which can be carried out advantageously for enhancing retail operations. The results of

such computer analysis are provided to management of the establishment 12 as is shown by an analysis output arrow 160. It is noted that this data analysis computer facility 120 may be incorporated within the computer facility 80, in which case the port 100 is a port within the computer facility 80.

Alternatively, the data analysis computer facility 120 may be located at a remote corporate chain headquarters, if the establishment 12 is part of a retail chain. In the event that the data analysis computer facility 120 is located at a remote corporate headquarters for a chain, then a data communication and interrogation pathway 130' shown by a dash and dot line extends through a data communication and interrogation pathway 130 (described later in greater detail) to a host computer at the remote corporate headquarters (not shown).

This data communication and interrogation pathway 130 extends outside of the establishment 12 through an outside region 14 to the centralized host computer facility (not shown). A double line 13 indicates the boundary of the establishment 12, with the region 14 being outside of this boundary.

If the retail establishment 12 is part of a chain, then this data communication and interrogation pathway 130 also is in

communication with a port 150 of the data storage computer facility 40 as is shown in FIG. 1.

In the event that the retail establishment 12 is part of a chain (and regardless of whether or not the data analysis computer facility 120 is included within the computer facility 80), this data analysis computer facility has a communication port 140 which is in communication through a data communication and interrogation pathway 130 with a centralized host computer facility (not shown) located at the remote corporate headquarters (not shown) or located at a dedicated site used by such headquarters.

Management of the chain may determine programming of the computer facility 120 regardless of whether this facility 120 is located nearby to the establishment 12 or is located at corporate headquarters or at a dedicated site for use by corporate headquarters. The output results 160 of such computer analysis are arranged to be provided to corporate management of the chain. These analytical out put results 160 may be provided so as to be communicated to and available from the host computer in any convenient form as determined by corporate management of the chain.

It is noted that each communication pathway 30, 90, 110, 130 and 130' will include suitable signal handling equipment as may be technologically available at a time when a method, system and apparatus 10 embodying the invention are put into operation in a retail establishment 12. Also, each computer facility 40, 80 and 120 will include suitable processing and data storage capability as may be technologically available at a time when a method, system and apparatus 10 embodying the invention are put into operation in a retail establishment 12.

In FIG. 2 is shown a method, systems and apparatus generally indicated at 10A, wherein a data storage computer facility 40A is programmed in accord with aspects of the present invention. This facility 40A is programmed to provide therein accessible data storage 82 for the groups of data signals transmitted thereto from a computer facility 80A.

This computer facility 80A is similar in some respects to the computer facility 80 in FIG. 1 in that this facility 80A monitors data signals 52 and 54 as is shown by arrows 52' and 54' for detecting each code signal corresponding to a MATCH Code and for identifying each group of data including all data relating to each completed transaction involving a MATCH Code.

Unlike the computer facility 80 in FIG. 1, this computer facility 80A selectively feeds to the accessible storage 82 which has been programmed into the data storage computer facility 80A in accordance with a method embodying the present invention so that this data storage 82 is available in the computer facility 40A.

Since the accessible storage 82 is programmed to be within the retail establishment's data storage computer facility 80A, the data analysis computer facility 120 is in communication with this accessible storage through a suitable communication pathway 110. The data analysis computer facility 120 may be located outside of the computer facility 80A or may be included within this facility. It is programmed as determined by management of the establishment 12 to carry out analysis of each individual group of data for completed transactions each of which involves MATCH Code data. Various possible analytical procedures are described later which can be carried out advantageously by computer analysis for enhancing retail operations. The results of such computer analysis are provided to management of the establishment 12 as is shown by an analysis output arrow 160.

In the event that the establishment 12 is part of a retail chain, then the data analysis computer facility 120 may

be located at corporate headquarters of the chain or at a dedicated site used by management of the chain. This data analysis computer facility is arranged to be programmed as determined by management of the chain to carry out analysis of each individual group of data for completed transactions each of which involves MATCH Code data. Various possible analytical procedures are described later which can be carried out advantageously by computer analysis for enhancing retail operations of the chain as a whole and for enhancing retail operations of each retail establishment 12 in the chain.

As illustrated in FIG. 3, data signals 52' and 54' being monitored are fed by communication pathway 90 into temporary storage 91 which is provided by computer facility 80 in FIG. 1 and is provided at 82 in computer facility 40A in FIG. 2. As shown at 92 the computer facility 80 in FIG. 1 or 80A in FIG. 2 determines: DOES STORED DATA FOR A COMPLETED TRANSACTION INCLUDE DATA CORRESPONDING TO A MATCH CODE?

When this determination 92 is NO, then data which was temporarily stored as shown at 91 is removed as is shown at 93.

When this determination 92 is YES, then as is shown at 94 an identification is made of each group of data including all data relating to each completed transaction including data

corresponding to a MATCH Code. This identification is made by the computer facility 80 in FIG. 1 or 80A in FIG. 2.

Each such group of data is selectively accessibly stored as is shown at 95. This accessible storage is provided in computer facility 80 in FIG. 1 or in computer facility 40A in FIG. 2 as is shown at 82 in the computer facility 40A.

Each individual group of data is analyzed as shown at 96 in accord with analytical procedures determined by the management responsible for operations at the retail establishment 12. This analysis is carried out by the computer facility 120 which may be a separate facility at the retail establishment 12 or which may be included in the computer facility 80 or 80A of which may be located at headquarters of a retail chain or located at a dedicated site convenient for management of a retail chain or which may be programmed into a host computer facility of the retail chain.

The analysis 96 provides an output of results of analysis as is shown at 97 which is provided as indicated by the output arrow 160 in FIG. 1 and in FIG. 2.

in the SUMMARY OF THE DISCLOSURE at (a), (b), (c), (d), (e) and (f). In addition this analysis may include one of more of the following steps:

(g) determining whether and how often a specifically-identified customer patronizes more than one retail establishment 12 in the chain;

(h) determining whether a specifically-identified customer has purchased a multi-year usage item, such as a refrigerator, stove, dishwasher, clothes washer, clothes dryer, lawn mower, and the like and the identity of such an item. If the specifically-identified customer has purchased such an item, then the analysis procedures may include determining an expected useful or utilitarian lifetime of such an item and may set up a program to send a suitable notice to the specifically-identified customer at a future date for advising this customer that such an item purchased at such store on such date has a useful or utilitarian lifetime which will expire in a time period of such months and informing this customer that certain improved models of that item are available and that a purchase price for each such improved model will be reduced by such percentage if this customer will prior to such a date place an order for such improved model and that an invoice for such purchase will not be sent to this customer until one month after the ordered improved model has been delivered directly to this customer, thereby

saving the customer's time, costs and effort in selecting and arranging for delivery of such improved model; and

(i) since the output of results of analysis 97 includes this vital information, namely: THIS SPECIFICALLY-IDENTIFIED CUSTOMER IS ONE OF OUR MOST PROFITABLE SHOPPERS, AND WE NOW KNOW THE LOCATION OF THIS SHOPPER AND THIS SHOPPER'S CUSTOMARY TYPES OF PURCHASES AND PURCHASING PATTERNS, therefore we will arrange our inventory of products so that this customer will not encounter an out-of-stock situation at this customer's usually-used store and we will arrange our promotions and sales in various ways as are most likely to encourage patronage and engender loyalty in this customer directed toward our stores.

Although specific presently preferred embodiments of the invention have been disclosed herein in detail, it is to be understood that these examples of the invention have been described for purposes of illustration. This disclosure is not intended to be construed as limiting the scope of the invention, since the described method, systems and apparatus may be changed in detail by those skilled in the field of retailing and mass marketing without departing from the scope of the following claims.

I Claim:

1. In a point-of-sale (POS) system controlled by a data storage computer facility and comprising a plurality of check-out terminal stations where customers present products usually having associated Product Codes; wherein the Product Codes and data regarding quantities of purchased items are suitably delivered to the data storage computer facility; and data regarding other factors that occur during a point-of-sale transaction such as multiple unit pricing, bottle returns, rainchecks, "cents-off" coupons, etc. are suitably delivered to the data storage computer facility and wherein the data storage computer facility accumulates Product Code and purchase and quantity data and other relevant data for an entire purchase transaction and suitably assembles all such data for enabling presentation of a customer's bill and wherein at the end of the transaction the customer tenders payment, and the transaction is completed by suitable acknowledgment to a customer that the customer's bill is paid;

apparatus for developing data from transmissions of data between the POS and the data storage computer facility to enable the store management to rapidly and cost efficiently obtain critical marketing information for carrying out improved targeted marketing and/or sales operations to increase profitability, said apparatus comprising:

Claim 1 - continued

sensor equipment to machine-read and electronically input to the data storage computer facility a data signal corresponding to a Match Code associated with a Reward Offer provided to selected prospective customers, identified as Primary Prospect Households (PPH);

the Reward Offer presenting at least one offer of an identified product with a special incentive for purchase;

the Match Code associated with the Reward Offer identifying the specific Primary Prospect Household to which the Reward Offer was extended;

a monitoring computer facility for monitoring signals transmitted between the POS and said data storage computer facility to detect any Match Code;

said monitoring computer facility being responsive to detection of any data signal corresponding to a Match Code to identify a series of signals representing the total transaction data for all of the purchases made during a completed transaction by the customer bringing the Reward Offer with which the Match Code is associated; and

means for analyzing said total transaction data to determine relevant information to enable improved marketing and/or sales operations to be carried out subsequently.

2. Apparatus as claimed in Claim 1, wherein said total transaction data includes purchase of the identified product associated with the Reward Offer.

3. Apparatus as claimed in Claim 1, wherein said Reward Offer includes graphic presentations of a plurality of separate offers respecting different products, affording the customer a selection;

said in-store processor including means to develop in said total transaction data a reward for each of the customer purchases corresponding to said separate offers.

4. Apparatus as claimed in Claim 1, wherein said apparatus includes selective data sentry means arranged to receive the transaction data from the output of said in-store processor; and

means forming part of said selective data sentry means and responsive to the detection of a Match Code for temporarily storing all of the transaction data for any complete transaction which the detected Match Code is included.

5. Apparatus as claimed in Claim 4, wherein said selective data sentry means comprises means to direct all of said temporarily stored transaction data to a dedicated data base having analysis means arranged to analyze the transaction data to develop significant marketing information relating to the customer presenting the corresponding Reward Offer.

6. Apparatus as claimed in Claim 1, including means for identifying the start and end of an entire transaction;

said selective data sentry means including means responsive to said identified start and end of the entire transaction and serving to temporarily store the complete transaction data for a transaction where a Match Code has been detected.

7. Apparatus as claimed in Claim 6, wherein said selective data sentry means includes means to make a copy of said complete transaction data for a transaction where a Match Code has been detected;

said in-store processor including output means operable to direct said complete transaction data to a centralized host computer for extensive detailed analysis.

8. Apparatus as claimed in Claim 7, wherein said selective data sentry means includes means operable to receive said complete transaction data from said output means of said in-store processor.

9. Apparatus as claimed in Claim 1, wherein said in-store processor includes decoding means responsive to the coded data input thereto;

said decoding means serving to determine whether the coded data represents a product code or a Match Code; and

means responsive to the output of said decoding means and operative to direct a signal to said selective data sentry means to indicate detection of a Match Code for the transaction then being processed, thereby to activate said selective data sentry means to identify the transaction data for the entire transaction for analysis.

10. In a point-of-sale (POS) system controlled by an in-store processor and comprising a plurality of check-out terminal stations where customers present selected products bearing machine-readable codes such as but not limited to the predominant Uniform Product Codes (UPC); wherein the product codes are input into the in-store processor through use of a scanner or other input device at the check-out station; wherein the in-store processor accumulates the product code and purchase

Claim 10 - continued

data representing an entire purchase transaction; the in-store processor further including product look-up (PLU) means wherein current price, specific product description and other relevant data are stored for the products offered by the store and selectable by the customers, thereby to enable the processor to electronically input and translate machine-readable product codes to actual products and prices in order to calculate the total transaction costs including credit adjustments for discounts (i.e., "cents-off" coupons) for each customer including other factors such as multiple unit pricing, bottle returns, rainchecks, etc.; and wherein at the end of the data input process the customer tenders payment and the check-out person completes the transaction;

the method of operating such POS system to develop in a very short time sales information to enable the store management to carry out targeted marketing and/or sales operations to increase profitability, said method comprising the steps of:

providing to selected prospective customers, identified as Primary Prospect Households (PPH), respective Reward Offers each having an associated Match Code identifying the specific Household to which the Reward Offer was provided, said Reward Offer presenting at least one offer of an identified product with a special incentive for its purchase;

Claim 10 - continued

submitting the Reward Offer to the check-out person while that person is carrying out a check-out operation;

machine-reading said Match Code at said check-out station and developing a corresponding code signal as an input for said in-store processor;

monitoring the signals input to said in-store processor to detect any Match Code;

identifying in response to any such detected Match Code a series of signals representing the total transaction data for all of the purchases made by the customer presenting said Reward Offer; and

analyzing said total transaction data to determine relevant information for marketing and/or sales operations to be carried out subsequently.

11. The method of Claim 10, wherein said check-out transaction includes purchase of said product identified by the submitted Reward Offer.

12. The method of Claim 10, wherein said Reward Offer is a mailer carrying graphic information; and including the step of:

imprinting said Match Code on said Reward Offer in a manner suitable for machine reading.

13. The method of Claim 12, including the step of machine-reading said Reward Offer to produce electrical signals representing said Match Code; and

directing said electrical signals to the input of said in-store processor.

14. The method of Claim 10, including the step of identifying the start and end of the series of signals representing the total transaction data for a transaction where a Match Code is detected; and

directing said total transaction data to a performance analysis computer for processing to produce an assessment of predetermined significant factors of the total transaction.

15. A method for enhancing retailing comprising the steps of:

providing to selected prospect customers, identified as Primary Prospect Households (PPHs), respective Reward Offers each having an associated MATCH Code identifying the specific Household and/or to its address to which the Reward Offer was provided, said Reward Offer presenting at least one offer for sale of a product identified in the Reward Offer with a special incentive for its purchase;

Claim 15 - continued

fashioning each Reward Offer for a prospect customer to submit the Reward Offer with its MATCH Code at a check-out terminal station during a retail transaction;

inputting the MATCH Code at the check-out terminal station developing a corresponding code signal as an input signal for a data storage computer facility;

monitoring signals input to the data storage computer facility relating to purchasing activities occurring at the check-out terminal station for detecting any code signal corresponding to a MATCH Code;

identifying, in response to detection of a code signal corresponding to a MATCH Code, a group of signals representing all data relating to each completed transaction at the check-out terminal station wherein a code signal was developed corresponding to a MATCH Code; and

selectively accessibly storing data relating to each such group of signals.

16. The method as claimed in Claim 15 including:

analyzing the stored data relating to each such group of signals to determine information relevant for marketing and sales procedures to be carried out subsequently.

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17. Apparatus for use in relation to Point of Sale transactions comprising:

a Reward Offer adapted to be provided to a specific prospect customer address and having a MATCH Code associated therewith;

said MATCH Code including data identifying the specific prospect customer address to which the Reward Offer is provided;

said Reward Offer presenting at least one offer for sale of a product identified in the Reward Offer with a special incentive for its purchase;

said MATCH Code being machine-sensible;

a computer facility for use in a retail establishment for monitoring all data signals arising from transactions occurring at a check-out terminal station;

said data signals being adapted for input to a data storage facility;

said computer facility being responsive to any signal corresponding to a MATCH Code for identifying a group of data signals representing the total of all transaction data relating to a completed transaction involving data corresponding to a MATCH Code;

said computer facility selecting from said monitored data signals each group of data signals representing the total of all transaction data relating to a completed transaction involving data corresponding to a MATCH Code; and

Claim 17 - continued

selectively accessible storage for each such group of data signals in a form suitable for analyzing the group to determine relevant information to enable improved selective marketing activities and/or enhanced sales procedures regarding specific prospect customers.

18. A method for use in retail establishments involving points-of-sale (POS) transactions wherein customers in their respective transactions present selected products at check-out terminal stations and wherein such products have Product Codes for enabling a data storage computer facility to determine identities, current prices of products being sold and assembles all data relating to a customer's transaction for enabling development at the POS of a total charged amount for the respective completed transaction, said method comprising the steps of:

providing Reward Offers to preselected specific customers;

each Reward Offer having an associated MATCH Code identifying a specific customer and each Reward Offer including an offer for sale of at least one product identified in the Reward Offer with an inducement for purchase of said product;

Claim 18 - continued

sensing a stream of data being transmitted between a POS and the data storage computer facility;

temporarily storing successive portions of the stream of data in accessible temporary storage;

sensing each occurrence of a signal corresponding to a MATCH Code;

removing from said accessible temporary storage all data relating to each completed transaction wherein there is no occurrence of a signal corresponding to a MATCH Code;

selecting from said accessible temporary storage each group of data relating to each completed transaction wherein there is an occurrence of data corresponding to a MATCH Code; and

analyzing each such group of selected data for determining predetermined aspects regarding the data in each such group relating to the customer whose identity is provided by MATCH Code data included in each such group.

19. The method as claimed in Claim 18 including steps of:

(a) for each respective group of selected data determining the identity of each customer to whom a Reward Offer was provided from data corresponding to a respective MATCH Code;

Claim 19 - continued

(b) for each respective group of selected data determining the charged amount; and

(c) for each respective group of selected data determining identities of items purchased by said specific customer from data corresponding to Product Codes.

20. The method as claimed in Claim 18 including steps of:

(d) for each respective group of selected data identifying a charged amount occurring at completion of a transaction which exceeds a predetermined dollar amount;

(e) for each respective group of selected data identifying each item whose sale provides a profit exceeding a predetermined amount of money;

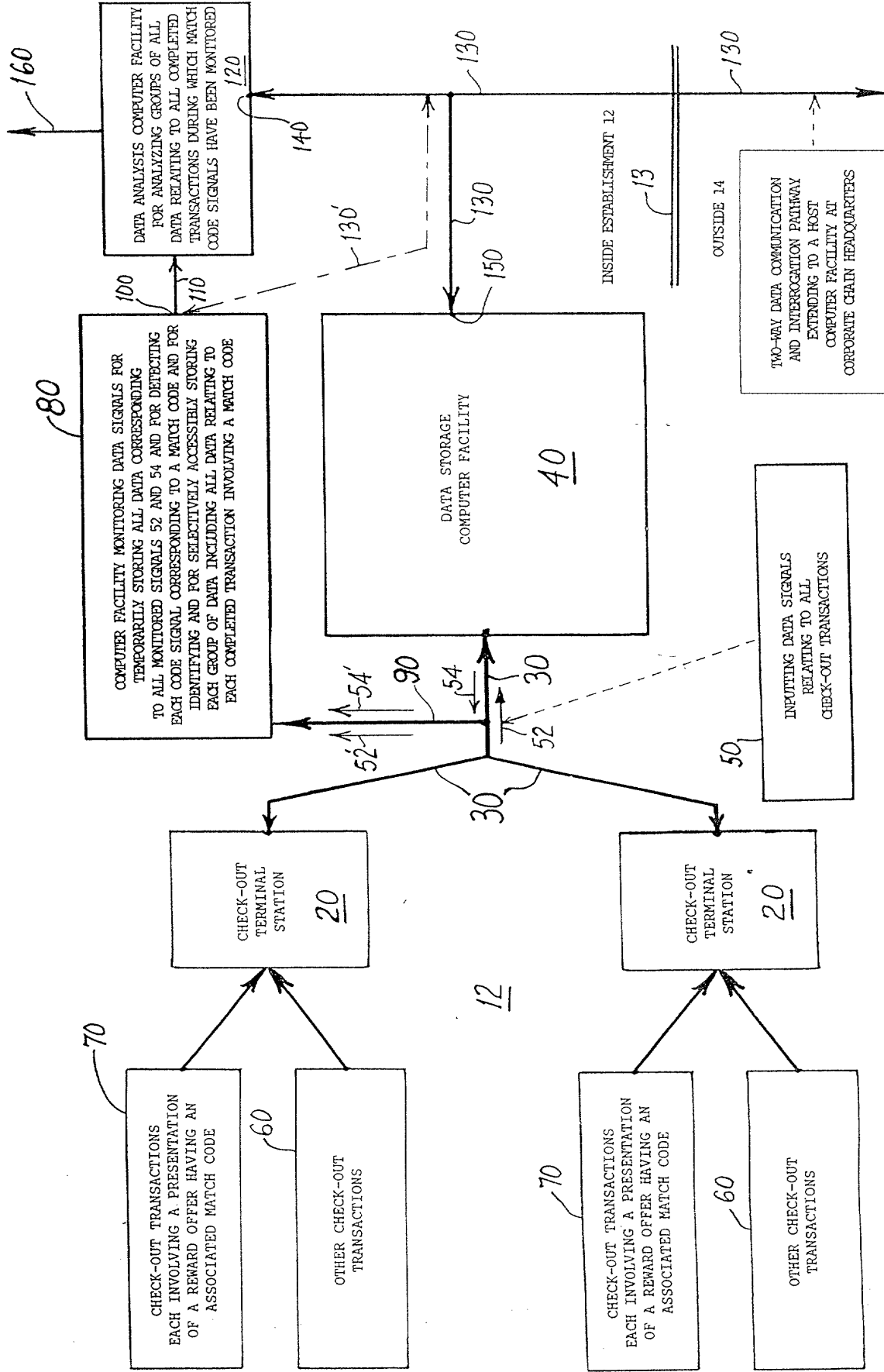
(f) for each respective group of selected data identifying each item whose sale provides a profit exceeding a predetermined percentage.

ABSTRACT

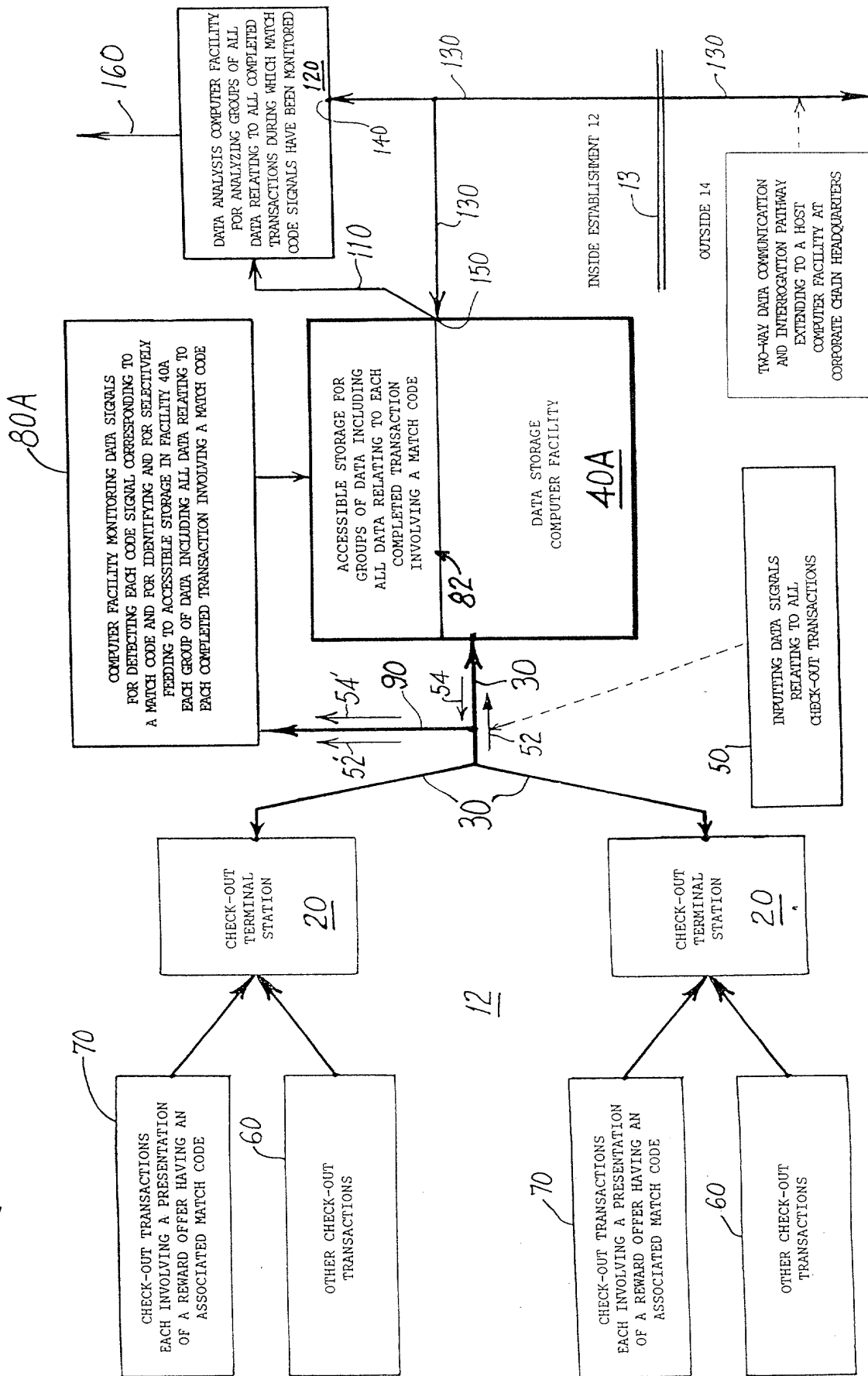
For Points of Sale transactions: MATCH-Code-responsive, selective, whole-transactions-data capture and analysis enable retail establishments to operate in relation to submissions at check-out stations of Reward Offers having MATCH Codes for developing customer-specific sales information so such establishments can enhance sales and marketing for increasing profitability. Reward Offers are provided to predetermined customers or households called Primary Prospect Households (PPHs). The Reward Offers have associated MATCH Codes as described which specifically identify the addresses and/or identities of PPHs. These Reward Offers include offerings for sale of identified products at purchase-motivating prices. Retailing managements thus can carry out customer-specific focused or selective marketing activities for increasing patronage and loyalty of PPHs who through their MATCH Codes become identified as among the retailer's most profitable shoppers. Data signals relating to ongoing POS transactions transmitted between check-out stations in a retail establishment and an associated data storage computer facility are monitored, and data corresponding to monitored signals are temporarily stored. Each group of temporarily stored data relating to each completed transaction having data corresponding to a MATCH Code is selectively accessibly stored and analyzed in various described ways in relation to customer-specific and product-purchase-specific aspects of each such group of data. Temporarily stored data relating to each completed transaction wherein there is no data corresponding to a MATCH Code is removed. Monitoring does not block transmission of signals between check-out stations and the retailer's data storage computer facility.

FIG. 1

10→



10A →



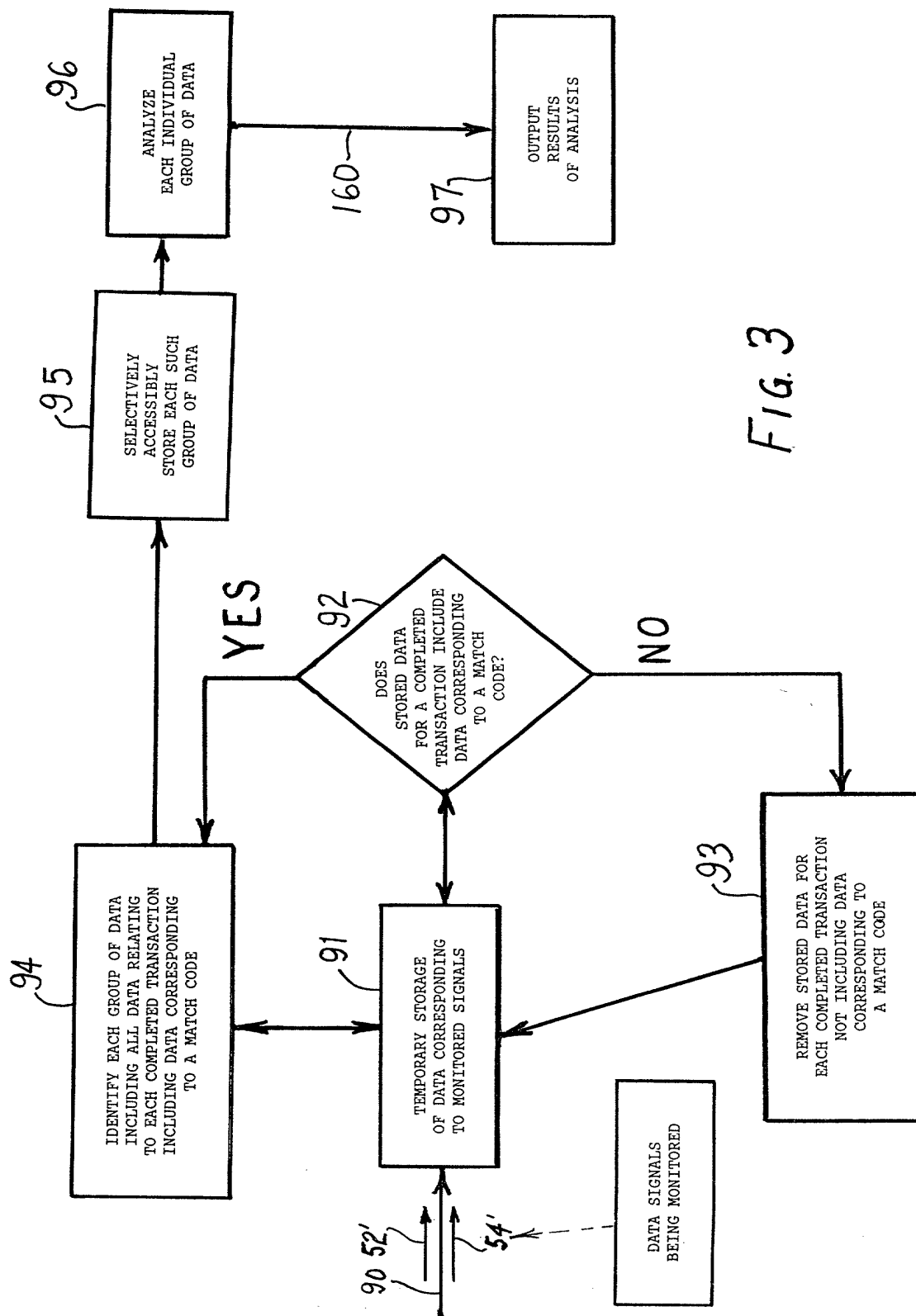


FIG. 3

DECLARATION AND POWER OF ATTORNEY

ATTORNEY'S DOCKET NO.

1624.001

As a below named inventor, I hereby declare that:
 My residence, post office address and citizenship are as stated below next to my name; and
 I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled FOR POINTS OF SALE: MATCH-CODE-RESPONSIVE, SELECTIVE, WHOLE-TRANSACTIONS-DATA CAPTURE METHOD, SYSTEMS AND APPARATUS
 the specification of which

(check one) ☒ is attached hereto
☐ was filed on _____ as

Application Serial No. _____

and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed: None

Prior Foreign Application(s)

Priority Claimed

(Number) _____

(Country) _____

(Day/Month/Year Filed) _____

☐ Yes☐ No

(Number) _____

(Country) _____

(Day/Month/Year Filed) _____

☐ Yes☐ No

(Number) _____

(Country) _____

(Day/Month/Year Filed) _____

☐ Yes☐ No

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT International filing date of this application: None

(Application Serial No.) _____

(Filing Date) _____

(Status — patented, pending, abandoned) _____

(Application Serial No.) _____

(Filing Date) _____

(Status — patented, pending, abandoned) _____

POWER OF ATTORNEY: As a named inventor, I hereby appoint G. KENDALL PARMELEE, Reg. No. 17,319 and HOWARD M. BOLLINGER, Reg. No. 17,618 whose address is Parmelee & Bollinger, LLP, 460 Summer Street, Stamford, Connecticut 06901, and each of them, my attorneys, to prosecute this application, and to transact all business in the U.S. Patent and Trademark Office connected therewith.

SEND CORRESPONDENCE TO: G. KENDALL PARMELEE
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 PARMELEE & BOLLINGER, LLP
 Tel: (203) 327-2650 Fax: (203) 323-4729

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor BOLAND D. TAIInventor's signature Boland D. TaiDate Feb 13, 1998Residence Cos Cob, Connecticut 06807-1807Citizenship United States of AmericaPost Office Address 26 Sundance Drive, Cos Cob, Connecticut 06807

Full name of second joint inventor, if any _____

Inventor's signature _____ Date _____

Residence _____

Citizenship _____

Post Office Address _____

Full name of third joint inventor, if any _____

Inventor's Signature _____ Date _____

Residence _____

Citizenship _____

Post Office Address _____

(Supply similar information and signature for fourth and subsequent joint inventors.)

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name; and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **FOR POINTS OF SALE: MATCH-CODE-RESPONSIVE, SELECTIVE, WHOLE-TRANSACTIONS-DATA CAPTURE**, the specification of which **METHOD, SYSTEMS AND APPARATUS**

(check ☒ is attached hereto.
one) ☐ was filed on _____ as

Application Serial No. _____

and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed: **None**

Prior Foreign Application(s)

Priority Claimed

(Number)

(Country)

(Day/Month/Year Filed)

☐
Yes☐
No

(Number)

(Country)

(Day/Month/Year Filed)

☐
Yes☐
No

(Number)

(Country)

(Day/Month/Year Filed)

☐
Yes☐
No

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT International filing date of this application:

09/026,289

(Application Serial No.)

February 19, 1998

(Filing Date)

pending

(Status — patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status — patented, pending, abandoned)

POWER OF ATTORNEY: As a named inventor, I hereby appoint G. KENDALL PARMELEE, Reg. No. 17,319, whose address is: PMB 307, 800 Village Walk, Guilford, Connecticut 06437, my attorney, to prosecute this application, and to transact all business in the U.S. Patent and Trademark Office connected therewith.

**SEND CORRESPONDENCE TO: Attorney G. Kendall Parmelee
PMB 307
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Telephone: (203) 453-1246
Fax: (203) 453-1486**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon

Full name of sole or first inventor **ROLAND D. TAI**
Inventor's signature *Roland Tai* Date **6/28/00**
Residence **Cos Cob, Connecticut 06807-1807**
Citizenship **United States of America**
Post Office Address **26 Sundance Drive, Cos Cob, Connecticut 06807**

Full name of second joint inventor, if any _____
Inventor's signature _____ Date _____
Residence _____
Citizenship _____
Post Office Address _____

Full name of third joint inventor, if any _____
Inventor's Signature _____ Date _____
Residence _____
Citizenship _____
Post Office Address _____

(Supply similar information and signature for fourth and subsequent joint inventors.)